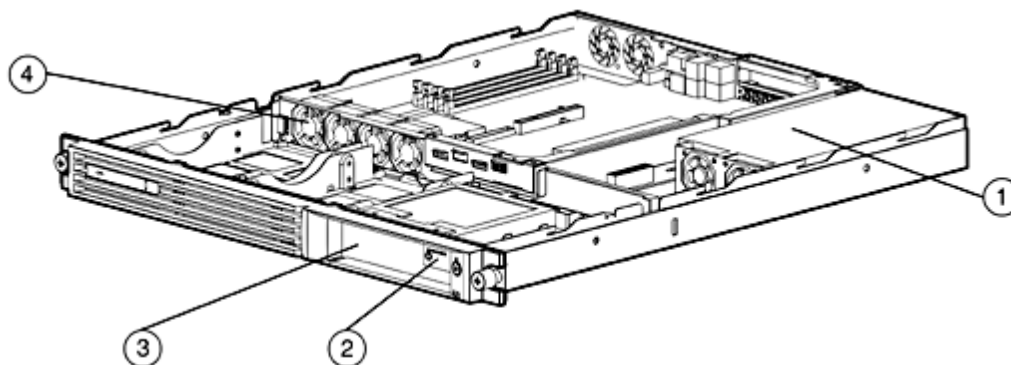


Overview



1. Power Supply
2. LED Indicators
3. Removable CD-ROM/Diskette Drive Assembly Option Kit (included in some models)
4. Fan Assembly

What's New

- Intel® Pentium 4 - 3.06 GHz FC-PGA (Flip Chip-Pin Grid Array) processor (single capability) with 512-KB level 2 cache with Hyper-Threading technology

At a Glance

- Intel Pentium 4 - 3.06 GHz, with Hyper-Threading technology (Flip Chip-Pin Grid Array) processor (single capability) with 512-KB level 2 cache
- The HP ProLiant DL320 G2 is the cost-effective 1U, 1-way server for flexibly deploying and managing front-end and single-function applications
- 1U Rack form factor (1.75")
- ServerWorks CMIC-SL Chipset with 533-MHz Front Side Bus
- 128-MB PC2100 ECC DDR SDRAM Memory, expandable to 4 GB
- One full-length 64-bit/33-MHz PCI slot available
- Two NC7760 PCI Gigabit Server Adapters (embedded)
- Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID (0, 1)
- Optional Slotless Single Channel Wide Ultra3 SCSI Controller Module
- Internal storage capacity of up to 274 GB in ATA Models (2 x 160 GB 1" ATA/100 Non-Hot Plug Drives) or 145.6 GB (2 x 72.8 GB 1" non hot plug SCSI)

NOTE: Please note that the internal ATA controller will only recognize a maximum of 137 GB/HDD in the HP ProLiant DL320 G2. If the hard drive bays are populated with 160 GB HDDs, the system will recognize a max of 137 GB each, for a maximum storage capacity of 274 GB.

- 180-Watt PFC Power Supply
- Front and Rear Unit Identification switches (UID)
- Exceptional serviceability with optional sliding rails, cable management and in-rack toolless service ability access
- Automatic Server Recovery (ASR), Insight Manager and SmartStart
- Protected by HP Services, including a three-year parts, one-year labor, one-year, on-site service, Next Business Day-limited, global warranty and extended, Pre-Failure Warranty which covers processors, memory, and hard drives - Certain restrictions and exclusions apply.

Standard Features

Processor Intel Pentium 4 - 3.06 GHz (FC-PGA) Processor (With Hyper-Threading technology)

Chipset ServerWorks GC-SL Chipset with 533-MHz Front Side Bus
NOTE: For more information regarding ServerWorks, please see the following URL:
<http://www.serverworks.com/products/overview.html>.

Memory Protection Registered ECC

Memory

Type	PC2100-MHz Registered ECC DDR SDRAM DIMM memory
Standard	128 GB (1 x 128 MB)
Maximum	4 GB

Network Controller Two NC7760 PCI Gigabit Server Adapters (embedded)

Expansion Slots	Slot Number	Bus Speed	Bus Number*	Device Number**	Hot Plug	PCI Voltage
	1	64-bit/33 MHz PCI			no	3.3 Volt

***NOTE:** Default bus assignment. Inserting cards with PCI bridges may alter the actual bus assignment number.

****NOTE:** Slots are enumerated differently based on OS. MS OS's enumerate from lowest to highest Device ID by bus (starting with the lowest bus).

NOTE: All slots can accept universal keyed PCI cards.

Storage Controllers Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1

Storage

Diskette Drive	1.44 MB Diskette Drive (included in some models)
Optical Drive	24x IDE (ATAPI) Low-Profile CD-ROM Drive (included in some models) NOTE: CD-ROM/Diskette Drive Assembly Option Kit 301048-B21.
Hard Drives	One of the following: (depending on model) <ul style="list-style-type: none"> • None • 80 GB ATA drive

Maximum Internal Storage Type Non-hot plug ATA 1.44 MB Diskette Drive 2 x 160 GB Ultra ATA/100 7,200 rpm (included in some models)
NOTE: ATA controller will only recognize 137 GB of a 160 GB HDD.

Standard Features

Interfaces	Serial	1
	USB	2
	NOTE: Please see the following URL for additional information regarding USB support: http://www.compaq.com/products/servers/platforms/usb-support.html .	
	Graphics	1
	Keyboard	1
	Mouse	1
	Network RJ-45	2
<hr/>		
Graphics	Integrated ATI RAGE XL Video Controller with 8-MB SDRAM Video Memory	
<hr/>		
Form Factor	Rack (1U), (1.75 in/4.45 cm)	
<hr/>		
ProLiant Essentials Foundation Pack Software	HP Systems Insight Manager	HP's new HP Systems Insight Manager (HP SIM) helps maximize system uptime and performance and reduce system maintenance costs by providing proactive notification of problems before those problems result in unplanned downtime or reduced productivity. HP SIM are both easy to set up work with the Insight Management Agents, integrated Light-Out and Remote Insight Light-Outs Edition, and Version Control Agents to deliver robust fault, configuration, and asset management as well as remote administration. With HP SIM customers will also be able to take advantage of role-based security; the ability to manage ProLiant, Integrity, and HP 9000 systems; and plug-ins for storage, client, printer, and power management as well as server rapid deployment, performance management, and workload management. For more details on HP SIM visit http://www.hp.com/go/hpsim .
	SmartStart	SmartStart is a tool that simplifies server setup, providing a rapid way to deploy reliable and consistent server configurations. For more information, please visit the SmartStart Web site at http://www.hp.com/servers/smartstart . SmartStart version supported (minimum): SmartStart 6.40.
	Management Agents	The Management Agents form the foundation for HP's Intelligent Manageability strategy. They provide direct, browser-based access to in-depth instrumentation built into HP servers, workstations, desktops, and portables, and send alerts to Insight Manager 7 and other enterprise management applications in case of subsystem or environmental failures. For additional information about the Management Agents and other management products from HP, please visit the management Web site at http://www.hp.com/servers/manage .
	Subscriber's Choice	Subscriber's Choice Driver and Support Alerts/Notifications is a web-based email subscription service that provides automatic delivery of software and driver change notifications for ProLiant products. Sign up at http://www.hp.com/go/subscriberschoice and customize your profile to receive various new alerts as they become available, on a weekly or monthly basis.

Standard Features

ROMPaq, support software, and configuration utilities

The latest software, drivers, and firmware fully optimized and tested for your ProLiant server and options available in SmartStart or downloadable from Software and Drivers download pages, linked from the SmartStart website at <http://www.hp.com/servers/smartstart>.

Survey Utility and diagnostics utilities

The most advanced configuration analysis, reporting and troubleshooting utilities used by HP and at your fingertips, available in SmartStart.

Optional ProLiant Essentials Value Packs

Optional software offerings that selectively extend the functionality of an Adaptive Infrastructure to address specific business problems and needs:

- Rapid Deployment Pack – an automated solution for multi-server deployment and provisioning, enabling companies to quickly and easily adapt to changing business demands.
- Workload Management Pack – provides easier management of complex environments, improving overall server utilization and enabling Windows® 2000 customers for the first time to confidently deploy multiple applications on a single multiprocessor ProLiant Server.
- Performance Management Pack – a performance management solution that identifies and explains hardware performance bottlenecks on ProLiant servers and attached options enabling users to better utilize their valuable resources.
- Intelligent Networking Pack - detects and analyzes network bottlenecks or broken network linkages and steers traffic to the optimum route based on network conditions.
- Vulnerability and Patch Management Pack - identifies and remediates software security vulnerabilities due to missing patches as well operating system configurations that can be exploited by viruses, worms, and other blended threats
- Virtual Machine Management Pack - provides central management and control of virtual machines from Microsoft and VMware. Integrated approach provides the ability to manage both physical and virtual resources from a single management console.

NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to <http://www.hp.com/servers/proliantessentials> or the various ProLiant Essentials Value Pack product QuickSpecs for more information.

NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: <http://www.hp.com/servers/proliantessentials>

Industry Standard Compliance

PCI 2.2 Compliant
PXE Support
WOL Support
Microsoft® Logo certifications
USB 1.1

Standard Features

Intelligent Manageability	Automatic Server Recovery (ASR) Remote Insight Lights-Out Edition II (optional) Insight Manager 7 HP Systems Insight Manager Integrated Management Log Drive Parameter Tracking (with Smart Array Controllers) Dynamic Sector Repairing (with Smart Array Controllers) Pre-Failure Warranty (covers processors, hard drives and memory)
Security	Power-on password Keyboard password Diskette drive control Diskette boot control Removable CD-ROM/Diskette Drive Assembly Administrator's password
Server Power Cords	One Lowline and one Highline (IEC-IEC) power cord ships standard.
Power Supply	Auto-sensing 180-Watt PFC Power Supply, CE Mark Compliant
System Fans	6 fans ship standard. 6 total supported internally.
Ultra Thin Rack Deployment Overview	For the Ultra Thin Rack Deployment Overview, including best practices for the HP ProLiant DL320, please see the following URL: http://www.compaq.com/products/servers/ProLiantdl320/ .
Required Cabling	For required cabling information, refer to the Web site at: http://www.compaq.com/products/servers/ProLiantdl320/ .
OS Support	Microsoft Windows NT® Server Microsoft Windows 2000 Server Windows Server 2003 LINUX (Red Hat, SuSE, UnitedLinux) NOTE: Support differences will exist between the ATA and SCSI configurations. NOTE: For a more complete and up-to-date listing of supported OSs and versions, please visit our OS Support Matrix at: http://www.hp.com/go/supportos . NOTE: For an up-to-date listing of the latest drivers available for the HP ProLiant DL320, please see: http://www.compaq.com/support/files/server/us/index.html . NOTE: For a more complete and up-to-date information on Linux support, please visit HP Linux Web site at http://h18000.www1.hp.com/products/servers/linux/hpLinuxcert.html . NOTE: For more complete and up-to-date information on how to buy server operating systems from HP please visit the OS product site at: http://h18004.www1.hp.com/products/servers/software/OEM.html

Standard Features

Rack Airflow Requirements

Rack 10000 series Cabinets

The increasing power of new high-performance processor technology requires increased cooling efficiency for rack-mounted servers. The 10000 Series Racks provide enhanced airflow for maximum cooling, allowing these racks to be fully loaded with servers using the latest processors.

CAUTION: If a third-party rack is used, observe the following additional requirements to ensure adequate airflow and to prevent damage to the equipment:

- Front and rear doors: If your 42U server rack includes closing front and rear doors, you must allow 5,350 sq cm (830 square inches) of hole evenly distributed from top to bottom to permit adequate airflow (equivalent to the required 64 percent open area for ventilation).
- Side: The clearance between the installed rack component and the side panels of the rack must be a minimum of 7 cm (2.75 inches)

CAUTION: Always use blanking panels to fill all remaining empty front panel U-spaces in the rack. This arrangement ensures proper airflow. Using a rack without blanking panels results in improper cooling that can lead to thermal damage.

NOTE: For additional information, refer to the Setup and Installation Guide or the Documentation CD provided with the server, or to the server documentation located in the Support section at the following URL: <http://www5.compaq.com/products/servers/ProLiantDL320/index.html>.

Factory Express Portfolio for Servers and Storage

HP Factory Express offers configuration, customization, integration and deployment services for HP servers and/or storage products. Customers can choose how their factory solutions are built, tested, integrated, shipped and deployed.

Factory Express offers service packages for simple configuration, racking, installation, complex configuration and design services as well as individual factory services, such as image loading, asset tagging, and custom packaging to meet customer needs. HP products supported through Factory Express include: HP Integrity, HP ProLiant & Blades, HP 9000 servers and the MSA1000, VA7xxx, EVA3000 & EVA5000, XP, rackable tape libraries and configurable network switches storage products.

For more information on how to order please contact your sales representative or go to <http://www.hp.com/go/factory-express>.

Service and Support

Three-year limited warranty, including hardware diagnostic support, pre-failure warranty (coverage of hard drives, memory and processors). The warranty is fully supported by HP Services and a worldwide network of resellers and service providers. In addition 90-day's getting started software telephone support may be covered under the warranty or available for an additional fee. Enhancements to warranty services are available through HP Care Pack services.

NOTE: Limited warranty includes 3 year parts, 1 year labor, 1-year on-site support

Care Pack services provide a range of life cycle support options that let you choose the service levels that meet your business requirements, from basic to mission-critical.

A full range of HP Care Pack hardware and software services are available including:

- Installation and start up
- Education courses
- Extended onsite hardware coverage hours from same business day 13 hours, 5 day to 24 hours, 7 days call window with options including 4-hour response or 6-hour Call To Repair
- Comprehensive range of software technical support for Microsoft, Linux, ProLiant Essentials and VMWare-based IT solutions helping to deliver high level of application availability. Response times

Standard Features

range from 30 mins for critical problems to 2 hours.

- System Management, Performance Services and Mission Critical Support Solution

HP Care Pack Services include HP branded hardware options qualified for the server, purchased at the same time or afterwards, internal to the enclosure, as well as 22" and smaller external monitors and tower UPS options up to 3KVA. 22" and smaller external monitors will be covered at the same service level and coverage period as the server. For servers or storage systems installed within a rack, service also covers all HP qualified rack options installed within the same rack.

NOTE: For more information on HP Care Pack services, contact any of our worldwide sales offices or resellers or visit our worldwide Web site on the internet at: <http://www.hp.com/hps/carepack>

NOTE: For more complete information on HP Services offerings, customers and resellers, please visit us at: <http://www.hp.com/hps>

NOTE: Additional information regarding worldwide limited warranty and technical support is available at: <http://h18004.www1.hp.com/products/servers/platforms/warranty/index.html>

Models

DL320R02 3.06-512 KB, 128 MB, ATA without CD/Floppy 336549-001	Processor(s)	Intel Pentium 4 - 3.06-GHz (FC-PGA) Processor standard (With Hyper-Threading technology)
	Cache Memory	512-KB level 2 cache
	Memory	128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory
	Network Controller	Two - NC7760 PCI Gigabit Server Adapters (embedded)
	Storage Controller	Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1
	Hard Drives	None ship standard
	Internal Storage	274-GB maximum (with optional hard drives)
	Optical Drive	Optional
DL320R02 P3.06-512 KB, 128 MB, ATA 80 GB with CD/Floppy 336549-002	Diskette Drive	Optional
	Form Factor	Rack (1U), (1.75 in/4.45 cm)
	Processor(s)	Intel Pentium 4 - 3.06-GHz (FC-PGA) Processor standard (With Hyper-Threading technology)
	Cache Memory	512-KB level 2 cache
	Memory	128-MB (Standard) to 4-GB (Maximum) PC2100 Registered ECC DDR SDRAM DIMM Memory
	Network Controller	Two - NC7760 PCI Gigabit Server Adapters (embedded)
	Storage Controller	Integrated Dual Channel Ultra ATA/100 Adapter with Integrated ATA RAID 0, 1
	Hard Drives	One 80-GB Ultra ATA/100 7,200 rpm non-hot plug 1" drive
	Internal Storage	274-GB maximum (with optional hard drives)
	Optical Drive	24x IDE (ATAPI) CD-ROM Drive (Low-Profile)
	Diskette Drive	1.44 MB Diskette Drive
	Form Factor	Rack (1U), (1.75 in/4.45 cm)

Options

HP ProLiant DL320 Unique Options	DL320 G2 Slotless SCSI module with cable	283533-B21
	CD-RW/DVD-ROM/Floppy Combo Option kit	343791-B21
ProLiant Essentials Value Pack Software	Rapid Deployment Pack, 1 User, V1.x	267196-B21
	NOTE: This license allows 1 server to be managed and deployed via the Deployment Server.	
	NOTE: Rapid Deployment pack is now available in Linux only environments.	
	Rapid Deployment Pack, 10 Users, V1.x	269817-B21
	NOTE: This license allows 10 servers to be managed and deployed via the Deployment Server.	
	NOTE: Rapid Deployment pack is now available in Linux only environments.	
	Flexible Quantity License Kit	302127-B21
	License-Only - for use with a Master License Agreement	302128-B21
	ProLiant Essentials Workload Management Pack (Featuring Compaq Resource Partitioning Manager version 2.0)	303284-B21
	Performance Management Pack, single server	306696-B21
	NOTE: This license allows 1 server to be managed by Performance Management Pack.	
	ProLiant Essentials Performance Management Pack, 10 Pack Server License	374055-B21
	Performance Management Pack, flexible license kit	306697-B21
	NOTE: A single pack is shipped with a single license key for the total number of licenses ordered	
	ProLiant Essentials Intelligent Networking Pack, 1 License	372906-B21
	ProLiant Essentials Intelligent Networking Pack Flex License	372950-B21
	ProLiant Essentials Intelligent Networking Pack Track License	372951-B21
	ProLiant Essentials Virtual Machine Management Pack, Single-Server License	372214-B21
	NOTE: For use with a single server. Contains one license with a unique license activation key and documentation.	
	ProLiant Essentials Virtual Machine Management Pack, Flexible-Quantity License	372215-B21
	NOTE: For use with multiple servers. This part number can be used to purchase multiple licenses with a single activation key.	
	ProLiant Essentials Virtual Machine Management Pack, Tracking License	372216-B21
	NOTE: For use with signed and implemented Activation Key Agreements only. Purchase of this part number entitles the customer to deploy additional licenses of the product under the terms of the existing Activation Key Agreement.	
	ProLiant Essentials Vulnerability and Patch Management Pack, Single-Server License	371645-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, 10-Server License	372029-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, Flexible-Quantity License	371646-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, Tracking license for new servers	371647-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, Tracking license for installed servers	378372-B21
	ProLiant Essentials Vulnerability and Patch Management Pack, 1-Server 10-Desktop Bundle License	389941-B21

Options

NOTE: Flexible and volume quantity license kits are available for ProLiant Essentials Value Packs. Refer to <http://www.hp.com/servers/proliantessentials> or the various ProLiant Essentials Value Pack product QuickSpecs for more information.

NOTE: For more information regarding ProLiant Essentials Software, please see the following URL: <http://www.hp.com/servers/proliantessentials>.

Software Options	HP ProLiant DL320 Firewall/VPN/Cache Server (pre-installed only)	370442-B21
Memory (DIMMs)	1024-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287497-B21
	512-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287496-B21
	256-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287495-B21
	128-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Kit	287494-B21
Internal Storage	CD-ROM/Diskette Drive Assembly Option Kit	301048-B21
	CD-RW/DVD-ROM/Floppy Combo Option kit	343791-B21
	ProLiant DL320 Wide Ultra3 SCSI Cable Option Kit	212690-B21
	NOTE: The SCSI Cable Option Kit (212690-B21) is required if you are adding PCI SCSI or Array card.	
	DL320 G2 Slotless SCSI module with cable	283533-B21
	HP DVD+R/RW 8X Slim	383975-B21
Hard Drives	<i>Ultra320 – Universal Non-Hot Plug</i>	
	36.4 GB 15,000 rpm, U320 Non-Hot Plug Hard Drive, 1"	357012-B21
	72.8 GB 10,000 rpm, U320 Non-Hot Plug Hard Drive, 1"	332751-B21
	146.8 GB 10,000 rpm, U320 Non-Hot Plug Hard Drive, 1"	356990-B21
	NOTE: All U320 Universal Hard Drives are backward compatible to U2 or U3 speeds. U320 drives require an optional U320 Smart Array Controller or U320 SCSI HBA to support U320 transfer rates.	
	<i>ATA/100 - Non-Hot Plug</i>	
	160-GB ATA 100 7,200 RPM Hard Drive (1")	366486-B21
	NOTE: ATA controller will only recognize 137GB of a 160GB HDD.	
	80-GB ATA 100 7,200 rpm Drive (1")	278424-B21
	40-GB ATA 100 7,200 rpm Drive (1")	230534-B21
	NOTE: Please see the Hard Drive QuickSpecs for Technical Specifications such as capacity, height, width, interface, transfer rate, seek time, physical configuration, and operating temperature:	
	U320 Hard Drive QS:	
	http://h18000.www1.hp.com/products/quickspecs/11531_na/11531_na.HTML	
	ATA100 Hard Drive QS:	
	http://h18000.www1.hp.com/products/quickspecs/11361_na/11361_na.HTML	

Options

Storage Controllers	Smart Array 641 Controller	291966-B21
	Smart Array 642 Controller	291967-B21
	256-MB Battery-Back Cache Module	254786-B21
	NOTE: This 256-MB Battery-Backed Cache Module supports the Smart Array 5300 series controllers, HP StorageWorks Modular Smart Array 1000 and the HP StorageWorks Modular Smart Array 500	
	64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter	268351-B21
	NOTE: Supports Wide Ultra3, Ultra320 SCSI drives only. If cabling to internal drives, you must first remove the integrated controller module. ATA models require the Wide Ultra3 SCSI cable option kit 212690-B21.	
	NOTE: This adapter will run at 33-MHz speeds due to the 33-MHz PCI Bus.	
	64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS	284688-B21
	NOTE: Supports Wide Ultra3, Ultra320 SCSI drives only. If cabling to internal drives, you must first remove the integrated controller module. ATA models require the Wide Ultra3 SCSI cable option kit 212690-B21.	
	NOTE: This adapter will run at 33-MHz speeds due to the 33-MHz PCI Bus.	
Communications	NOTE: Please see the following Controller or SCSI Adapter QuickSpecs for Technical Specifications such as PCI Bus, PCI Peak Data Transfer Rate, SCSI Protocols supported, SCSI Peak Data Transfer Rate, Channels, SCSI Ports, Drives supported, Cache, RAID support, and additional information: http://h18000.www1.hp.com/products/quickspecs/10640_na/10640_na.HTML (Smart Array 5300 Series) http://h18000.www1.hp.com/products/quickspecs/12067_na/12067_na.HTML (Smart Array 641) http://h18000.www1.hp.com/products/quickspecs/12069_na/12069_na.HTML (Smart Array 642) http://h18000.www1.hp.com/products/quickspecs/10429_na/10429_na.HTML (SCSI Adapter) http://h18000.www1.hp.com/products/quickspecs/11555_na/11555_na.HTML (U320 Adapter)	
	HP NC150T PCI 4-port Gigabit 1000T Combo Switch Adapter	367132-B21
	HP NC310F PCI-X 1000SX Gigabit Server Adapter	368169-B21
	HP NC320T PCI Express Single Port 1000T Gigabit Server Adapter	367047-B21
	HP NC6170 PCI-X Dual Port 1000SX Gigabit Server Adapter	313879-B21
	NC6770 PCI-X Gigabit Server Adapter, 1000-SX	244949-B21
	HP NC7170 PCI-X Dual Port 1000T Gigabit Server Adapter	313881-B21
	NOTE: Any NC61XX, NC71XX or NC77XX NIC can be used for redundancy with the embedded NC7760 Network Controller.	
Management Options	Remote Insight Lights-Out Edition II	227251-001
Security	HP/Atalla AXL600L SSL Accelerator Card for ProLiant Servers	524545-B21

Options

Tape Drives

NOTE: External tape devices, including both tape drives and tape arrays/enclosures, can be directly connected to the VHDCI SCSI port located on the back of the server. Use of a SCSI adapter to connect these devices is optional, not required.

External, Rack-Mount, and Array Module Ultrium Tape Drives

HP StorageWorks Ultrium 215 Tape Drive, External (Carbon)	Q1545A
HP StorageWorks Ultrium 215 rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350544-B21
HP StorageWorks Ultrium 215 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7492B
HP StorageWorks Ultrium 230 Tape Drive, External (Carbon)	Q1517A
HP StorageWorks Ultrium 230, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350545-B21
HP StorageWorks Ultrium 230 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7470B
HP StorageWorks Ultrium 448 Tape Drive, External (Carbonite)	DW017A
HP StorageWorks Ultrium 448, Rack-mount (Carbonite) - Single drive installed in a 1U rack-mount kit	DW028A
HP StorageWorks Ultrium 460 Tape Drive, External (Carbon)	Q1520A
HP StorageWorks Ultrium 460, Rack-mount (Carbon) - Single drive installed in a 3U rack-mount kit	350546-B21
HP StorageWorks Ultrium 460 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	Q1512B
HP StorageWorks Ultrium 960 Tape Drive, External (Carbonite)	Q1539A
HP StorageWorks Ultrium 960 Rack-mount (Carbonite) - Single drive installed in a 3U rack-mount kit	Q1595A

NOTE: Please see the HP StorageWorks Ultrium Tape Drive QuickSpecs for additional options such as controllers, media, and other related items:

http://h18006.www1.hp.com/products/quickspecs/11739_na/11739_na.html
http://h18006.www1.hp.com/products/quickspecs/12128_na/12128_na.html

For an up-to-date listing of the latest O/S and software support details for HP Ultrium tape drives, please visit: <http://www.hp.com/go/connect>

External and Array Module DAT Drives

HP StorageWorks DAT 72 Tape Drive, External (Carbon)	Q1523A
HP StorageWorks DAT 72 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	Q1524B
HP StorageWorks DAT 40 Tape Drive, External (Carbon)	C5687C
HP StorageWorks DAT 40 Array Module (Carbon) - Offline hot-swap drive for Tape Array 5300	C7497B

NOTE: Please see the DAT Tape Drive QuickSpecs for controllers, media, and other options:

http://h18000.www1.hp.com/products/quickspecs/11883_na/11883_na.HTML

For an up-to-date listing of the latest O/S and software support details for HP DAT drives, please visit: <http://www.hp.com/go/connect>

External DLT VS Tape Drives

HP StorageWorks DLT VS80 Tape Drive, External (Carbon)	337699-B22
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Options

NOTE: Please see the SDLT 320 Tape Drive QuickSpecs for additional options such as adapters, controllers, and media.

http://h18006.www1.hp.com/products/quickspecs/11403_na/11403_na.HTML

For an up-to-date listing of the latest O/S and software support details for HP SDLT tape drives, please visit: <http://www.hp.com/go/connect>

External SDLT Tape Drives

HP StorageWorks SDLT 320 Tape Drive, External (Carbon) NA

257319-001

NOTE: Please see the SDLT 320 Tape Drive QuickSpecs for additional options such as adapters, controllers, and media.

http://h18006.www1.hp.com/products/quickspecs/11840_na/11840_na.HTML

For an up-to-date listing of the latest O/S and software support details for HP SDLT tape drives, please visit: <http://www.hp.com/go/connect>

Rack-Mount Tape Drive Enclosures

HP StorageWorks 1U Rack-Mount Kit

A7445A

NOTE: The 1U Rack-mount Kit can support up to 2 half-height tape drives and compatible with multiple Single-Ended and LVD SCSI tape drives including DAT 24, DAT40, DAT72, DLT VS 80, and Ultrium 215 tape drives.

HP StorageWorks 3U Rack-Mount Kit

274338-B21

NOTE: The 3U Rack-Mount Kit can support up to 2 full-height or 4 half-height tape drives and compatible with multiple Single-Ended and LVD SCSI tape drives including DAT, DLT VS80, SDLT 320, Ultrium 215, Ultrium 230, and Ultrium 460 Tape Drives.

HP StorageWorks 5U Rack-Mount Kit

274339-B21

NOTE: The 5U Rack-Mount Kit can support up to 4 full-height tape drives and is compatible with SDLT 320, Ultrium 230, and Ultrium 460 tape drives.

NOTE: Please see the Rack-Mount Tape Drive Kits QuickSpecs for additional information regarding these kits:

http://h18000.www1.hp.com/products/quickspecs/10854_na/10854_na.HTML

HP StorageWorks Tape Array 5300

C7508A

NOTE: The Tape Array 5300 is a 3U enclosure that supports up to 2 full-height or 4 half-height hot-swap array modules, including DAT and Ultrium tape drives. Cables and terminators are not included and must be ordered separately.

NOTE: Please see the Tape Array 5300 QuickSpecs for additional information regarding this product.

http://h18000.www1.hp.com/products/quickspecs/11878_na/11878_na.HTML

Accessories for 3U & 5U Rack-mount Tape Drive Kits

LVD Cable Kit, VHDCI/HD68

168048-B21

NOTE: For use with the 3U Rack-mount Kit and 5U Rack-mount Kit only.

LVD Cable Kit, HD68/HD68

242381-B21

NOTE: For use with the 3U Rack-mount Kit and 5U Rack-mount Kit only.

Accessories for 3U & 5U Rack-mount Tape Drive Kits

PSU/Fan Upgrade Kit - Redundant hot-swap power supply unit and fan for Tape Array 5300.

68-pin HD multi-mode terminator

C2364A

1.0m 68-pin VHDCI to 68-pin HD cable

C2361B

2.5m 68-pin VHDCI to 68-pin HD cable

C2362B

5.0m 68-pin VHDCI to 68-pin HD cable

C2365A

10.0m 68-pin VHDCI to 68-pin HD cable

C2363B

0.5m 68-pin HDI to 68-pin HD cable LVD/SE

C2978B

Options

1.5m 68-pin HDI to 68-pin HD cable LVD/SE	C2979B
0.9m 68-pin HDI to 68-pin HD cable LVD/SE	C2911C
2.5m 68-pin HDI to 68-pin HD cable LVD/SE	C2924C
NOTE: For use with Tape Array 5300 only	

Tape Autoloaders

DAT Autoloaders

HP StorageWorks DAT 72x6 Tape Autoloader, External (Carbon)	Q1567A
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NOTE: Please see the [DAT 72x6 Tape Autoloader QuickSpecs](#) for additional options such as host bus adapters, controllers and media:

http://h18006.www1.hp.com/products/quickspecs/11905_na/11905_na.html

HP StorageWorks 1/8 Tape Autoloader

1/8 Ultrium 460 Tape Autoloader, Tabletop	AA927A
1/8 SDLT 320 Tape Autoloader, Tabletop	AA926A
1/8 Ultrium 230 Tape Autoloader, Tabletop	C9572CB
1/8 DLT VS80 Tape Autoloader, Tabletop	C9264CB
1/8 Tape Autoloader Rackmount Kit	C9268R

NOTE: Required to install the 1/8 tape autoloader in a standard 19-inch rack

NOTE: Please reference the [1/8 Tape Autoloader QuickSpecs](#) at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at

<http://www.hp.com/go/ebs>

HP StorageWorks SSL1016 Tape Autoloader

SSL1016 Ultrium 460 Tape Autoloader	330821-B21
SSL1016 SDLT 320 Tape Autoloader	330816-B21

NOTE: Please reference the [SSL1016 Tape Autoloader QuickSpecs](#) at

<http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at

<http://www.hp.com/go/ebs>

Tape Libraries

HP StorageWorks MSL6000 Tape Library

MSL6030, 1 drive, 30 slots, Ultrium 460, RM	330731-B22
MSL6030, 2 drive, 30 slots, Ultrium 460, RM	330731-B23
MSL6030, 1 drive, 30 slots, Ultrium 460, RM with embedded FC router	330731-B24
MSL6030, 2 drive, 30 slots, Ultrium 460, RM with embedded FC router	330731-B25
MSL6060, 2 drive, 60 slot, Ultrium 460, RM	331196-B21
MSL6060, 2 drive, 60 slot, Ultrium 460, RM with embedded FC router	331196-B22

NOTE: Please reference the [MSL6000 Tape Library QuickSpecs](#) at

<http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at

<http://www.hp.com/go/ebs>

HP StorageWorks MSL5026S2 Tape Library

MSL5026S2, 1 drive, 26 slots, SDLT 320, RM	293472-B22
MSL5026S2, 2 drive, 26 slots, SDLT 320, RM	293472-B23
MSL5026S2, 1 drive, 26 slots, SDLT 320, RM with embedded FC router	293472-B24

Options

MSL5026S2, 2 drive, 26 slots, SDLT 320, RM with embedded FC router 293472-B25

NOTE: Please reference the MSL5026S2 Tape Library QuickSpecs at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>

HP StorageWorks MSL5052S2 Tape Library

MSL5052S2, 2 drive, 52 slots, SDLT 320, RM 293474-B21

MSL5052S2, 2 drive, 52 slots, SDLT 320, RM with embedded FC router 293474-B24

NOTE: Please reference the MSL5052S2 Tape Library QuickSpecs at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>

HP StorageWorks MSL5030 Tape Library

MSL5030, 1 drive, 30 slots, Ultrium 230, RM 301897-B22

MSL5030, 2 drive, 30 slots, Ultrium 230, RM 301897-B23

MSL5030, 1 drive, 30 slots, Ultrium 230, RM with embedded FC router 301897-B24

MSL5030, 2 drive, 30 slots, Ultrium 230, RM with embedded FC router 301897-B25

NOTE: Please reference the MSL5030 Tape Library QuickSpecs at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>

HP StorageWorks MSL5060 Tape Library

MSL5060, 2 drive, 60 slots, Ultrium 230, RM 301899-B22

MSL5060, 2 drive, 60 slots, Ultrium 230, RM with embedded FC router 301899-B23

NOTE: Please reference the MSL5060 Tape Library QuickSpecs at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>

HP StorageWorks ESL E-Series Tape Libraries

ESL Extended 712e Tape Library, 0 drive, 712 LTO slots AA934B

ESL Extended 630e Tape Library, 0 drive, 630 SDLT slots AA935B

ESL Extended 322e Tape Library, 0 drive, 322 LTO slots AA939B

ESL Extended 286e Tape Library, 0 drive, 286 SDLT slots AA940B

ESL E-Series Ultrium 460 drive kit AA937A

ESL E-Series Ultrium 460-FC drive kit AA941A

ESL E-Series SDLT 320 drive kit AA936A

ESL E-Series e2400-FC 2G Interface Controller AA928A

NOTE: Please reference the ESL E-Series Tape Libraries QuickSpecs at <http://www.hp.com/go/automation> for additional information needed to create a complete solution; reference current compatibility information at <http://www.hp.com/go/ebs>

Options

Magento-Optical Jukeboxes	HP StorageWorks 9.1 GB Entry-level Optical Storage	
	9100mx standalone drive	C1114M
	220mx, 1 drive, 24 slot jukebox	C1118M
	220mx, 2 drive, 24 slot jukebox	C1119M
NOTE: Please reference the Magneto-Optical Jukebox data sheets at http://www.hp.com/go/optical for additional information needed to create a complete solution.		
HP StorageWorks Ultra Density Optical Storage	30ux standalone drive	AA961A
	700ux, 1 drive, 24 slot jukebox	AA962A
	700ux, 2 drive, 24 slot jukebox	AA963A
	1100ux, 2 drive, 38 slot jukebox	AA964A
NOTE: Please reference the Magneto-Optical Jukebox data sheets at http://www.hp.com/go/optical for additional information needed to create a complete solution.		
External Storage – Rack	Redundant Power Supply 499W	338296-B21
	StorageWorks Enclosure 4200 Redundant Power Supply Option	338296-B21
	StorageWorks Enclosure 4200 Ultra3 Single Bus I/O Module Option	190212-B21
	StorageWorks Enclosure 4200 Ultra3 Dual Bus I/O Module Option	190213-B21
	StorageWorks Enclosure 4200 Tower to Rack Conversion Kit	150213-B21
HP StorageWorks Modular Smart Array 1000	HP StorageWorks Modular Smart Array 1000	201723-B22
	Modular Smart Array 1000 Fabric Switch	218232-B21
	NOTE: Please see the Modular Smart Array 1000 QuickSpecs for additional options and configuration information at http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML	
UPS and PDU Power Cord Matrix	Please see the UPS and PDU Power Cord Matrix that lists cable descriptions, requirements, and specifications for UPS and PDU units. ftp://ftp.compaq.com/pub/products/servers/ProLiantstorage/power-protection/powercordmatrix.pdf .	
Uninterruptible Power Systems – Rack UPSs	HP UPS R5500 XR, (5000VA, 4500 Watt), High Voltage	326529-D71
	HP UPS R1500 XR (1440VA, 1340 Watt), Low Voltage	204404-001
	HP UPS R3000 XR (2880VA, 2700 Watt), Low Voltage	192186-001
	HP UPS R3000 XR (3000VA, 2700 Watt), High Voltage	192186-002
	HP UPS R12000 XR, N+x (12KVA, 12KW) High Voltage	207552-B22
	NOTE: The UPS R12000 XR has a hardwired input and output NOTE: UPS R6000 has a hardwired input; and the UPS R12000 XR has a hardwired input and output connection.	

Options

HP Power Distribution Unit with Power Monitoring	HP Power Distribution Unit with Power Monitoring Model S2324 - dual input, 3 phase, 24A	370959-D71
	HP Power Distribution Unit with Power Monitoring Model S1324 - single input, 3 phase, 24A	370960-D71
	HP Power Distribution Unit with Power Monitoring Model S2140 - dual input, 1 phase, 40A	370961-D71
	HP Power Distribution Unit with Power Monitoring Model S1140 - single input, 1 phase, 40A	370962-D71
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USB Options	USB Optical Scroll Mouse (Carbonite)	DD441B
	USB 1.44-MB External Diskette Drive (Carbonite)	DC141B
	256MB HP Drive Key II (USB 2.0)	PH657A
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Custom Builder	Please see the Enterprise Configurator for configuration assistance at: http://www.hp.com/products/configurator .	
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HP ProLiant DL320 Deployment Options	Rack Adapter Kit	332815-B21
	NOTE: This kit allows HP rack servers to fit in racks that are 24" wide.	
	Third Party Cabinet Rack Option	174574-B21
	Sliding Rails and Cable Management Solution Option	174575-B21
	Telco Rack Option	174576-B21
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HP Rack 5000 Series (Graphite Metallic)	HP 5642 Rack-Unassembled	358254-B21
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Rack Options for Rack 5000 Series	Stabilizer Kit for 5642 rack (Graphite Carbon)	374493-B21
	NOTE: The stabilizing kit is used to prevent rack from tipping over.	
	Baying Kit for 5642 rack (Graphite Carbon)	374499-B21
	NOTE: The baying kit is used to join two or more HP 5642 racks.	

Options

HP Rack 10000 Series (Graphite Metallic)	10642 (42U) Infrastructure Rack (Low Voltage)	379006-001
	10642 (42U) Infrastructure Rack (High Voltage)	379005-001
	HP S10614 (14U) Rack Cabinet – Shock Pallet	292302-B22
	HP 10842 (42U, 800mm wide) Rack Cabinet – Pallet	257415-B21
	HP 10842 (42U, 800mm wide) Rack Cabinet – Shock Pallet	257415-B22
	HP 10647 (47U) Rack Cabinet – Pallet	245160-B21
	HP 10647 (47U) Rack Cabinet – Shock Pallet	245160-B23
	HP 10642 (42U) Rack Cabinet – Pallet	245161-B21
	HP 10642 (42U) Rack Cabinet – Shock Pallet	245161-B22
	HP 10642 (42U) Rack Cabinet – Crated	245161-B23
	HP 10636 (36U) Rack Cabinet – Pallet	245162-B21
	HP 10636 (36U) Rack Cabinet – Shock Pallet	245162-B22
	HP 10636 (36U) Rack Cabinet – Crated	245162-B23
	HP 10622 (22U) Rack Cabinet – Pallet	245163-B21
	HP 10622 (22U) Rack Cabinet – Shock Pallet	245163-B22
	HP 10622 (22U) Rack Cabinet – Crated	245163-B23

NOTE: -B21 (pallet) used to ship empty racks shipped on a truck

-B22 (shock pallet) used to ship racks with equipment installed (by custom systems, VARs and Channels)

-B23 (crated) used for air shipments of empty racks

NOTE: It is mandatory to use a shock pallet in order to ship racks with equipment installed.

NOTE: Please see the Rack 10000 QuickSpecs for Technical Specifications such as height, width, depth, weight, and color:

http://www5.compaq.com/products/quickspecs/10995_na/10995_na.HTML

NOTE: For additional information regarding Rack Cabinets, please see the following

URL: <http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html>.

Rack Options for HP Rack 10000 Series

NOTE: For additional information regarding Rack Options, please see the following URL:
<http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html>

HP Rack Light Kit (Neon)	361589-B21
HP Rack Plinth Kit (Carbon)	251960-B21
42U Side Panel - Graphite Metallic	246099-B21
36U Side Panel – Graphite Metallic	246102-B21
47U Side Panel – Graphite Metallic	255486-B21
TFT5600 Rack Keyboard Monitor	221546-001
1U Rack Keyboard & Drawer (Carbon)	257054-001

NOTE: For additional information regarding Rack Options, please see the following

URL: <http://h18000.www1.hp.com/products/servers/proliantstorage/rack-options/index.html>.

Options

HP KVM Switch Options	Server Console Switch (KVM), 0 x 1 x 8 port	336044-B21
	Server Console Switch (KVM), 0 x 2 x 16 port	336045-B21
	IP Console Switch Box (KVM/IP), 1 x 1 x 16	262585-B21
	IP Console Switch Box (KVM/IP), 3 x 1 x 16	262586-B21
	HP 1x4 USB/PS2 KVM Switch, TT	371301-D71
	PS/2 Interface Adapter, 8 pack	262587-B21
	PS/2 Interface Adapter, 1 pack	262588-B21
	CAT5 KVM Expansion Module	262589-B21
	Serial Interface adapter - 1 Pack with power supply	373035-B21
	CAT5e Cable 3', 4 pack	263474-B21
	CAT5e Cable 6', 8 pack	263474-B22
	CAT5e Cable 12', 8 pack	263474-B23
	CAT5e Cable 20', 4 pack	263474-B24
	CAT5e Cable 40', 1 pack	263474-B25

NOTE: For additional information regarding HP KVM Switches and options, please see the following URL:

<http://h18004.www1.hp.com/products/servers/proliantstorage/rack-options/list.html#console>

Service and Support Offerings (HP Care Pack Services)

Hardware Services On-site Service

Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years	U4479A
Next Business Day On-site Service, 5-Day x 9-Hour Coverage, 3 Years, Electronic	U4479E
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years	U4480A
4-Hour On-site Service, 5-Day x 13-Hour Coverage, 3 Years, Electronic	U4480E
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years	U4481A
4-Hour On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4481E
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years	U4482A
6-Hour Call to Repair, On-site Service, 7-Day x 24-Hour Coverage, 3 Years, Electronic	U4482E

Installation & Start-up Services

Hardware Installation	U4490A
Hardware Installation, Electronic	U4490E
Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays.	U4491A
Installation & Start-Up of a ProLiant server and Microsoft or Linux O/S per the Customer Description and/or Data Sheet. To be delivered on a scheduled basis 8am-5pm, M-F, excl. HP holidays, Electronic	U4491E

Support Plus

Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays.	U4492E
Onsite HW support, 8am-9pm, M-F, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic	U4492E

Options

Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays. U4494A

Onsite HW support, 8am-9pm, M-F, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 8am-9pm, M-F 2hr response time excl. HP holidays, Electronic U4494E

Support Plus 24

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. U4493A

Onsite HW support 24x7, 4hr response and Microsoft O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U4493E

Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays. U4495A

Onsite HW support 24x7, 4hr response and Linux O/S SW Tech support offsite, onsite at HP's discretion, 24x7 2hr response time incl. HP holidays, Electronic U4495E

HP Care Pack Priority Services for ProLiant Servers - Priority Silver

NOTE: For more information, customer/resellers can contact

<http://www.hp.com/hps/>

Memory

HP ProLiant DL320 G2 All Models

Standard Memory
128-MB PC2100 Registered ECC DDR SDRAM DIMM Memory installed (1 x 128-MB SDRAM DIMM)

Standard Memory Plus Optional Memory
Up to 3200-MB memory is available with the optional installation of PC2100 Registered ECC DDR SDRAM DIMM Memory kits.

Standard Memory Replaced with Optional Memory
Up to 4096-MB of memory is available with the removal of the standard 128-MB of memory and the optional installation of PC2100 Registered ECC DDR SDRAM DIMM Memory kits.

NOTE: Chart does not represent all possible configurations.

Memory		Slot			
		1	2	3	4
Standard	128 MB	Empty	Empty	Empty	128 MB
Optional	3,200 MB	1024 MB	1024 MB	1024 MB	128 MB
Maximum	4,096 MB	1024 MB	1024 MB	1024 MB	1024 MB

Following are memory options available from HP:

- 1024-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit
 - 512-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit
 - 256-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit
 - 128-MB PC2100 Registered ECC DDR SDRAM DIMM Memory Option Kit
- 287497-B21

287496-B21

287495-B21

287494-B21

Storage



- 0 - 1 Two 3.5" x 1" ATA non-hot plug drive bays
- A Removable CD-ROM/Diskette Drive Assembly

Drive Support

	Quantity Supported	Position Supported	Controller
Removable Media			
1.44-MB Diskette Drive	Up to 1	A	Integrated
Low-profile IDE (ATAPI) CD-ROM Drive	Up to 1	A	Integrated IDE (ATAPI)
Low-profile IDE DVD-ROM Drive	Up to 1	A	Integrated IDE

Hard Drives

Ultra320 SCSI Non-Hot Plug Drives

	Quantity Supported	Position Supported	Controller
1-inch	Up to 2	0-1	
78.2-GB 10,000 rpm			Integrated Single Channel Wide Ultra2 Controller Module (SCSI Models) 64-bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
146.8-GB 10,000 rpm			
36.4-GB 15,000 rpm			

ATA 100 Non-Hot Plug Drives

	Quantity Supported	Position Supported	Controller
1-inch	Up to 2	0-1	
160-GB 7,200 rpm			Integrated Ultra ATA/100 Controller Module (ATA Models)
80-GB 7,200 rpm			
40-GB 7,200 rpm			

Storage

External Storage

	Quantity Supported	Position Supported	Host Controller or Adapter
Modular Smart Array 30 Family	Up to 13	External	Smart Array 6404/256 Controller Smart Array 642 Controller 64-Bit/133-MHz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
Modular Smart Array 500 System	1	External	Please see the Modular Smart Array 500 QuickSpecs for the latest list of supported HBAs: http://www.hp.com/go/msa500
Modular Smart Array 1000	Please see the Modular Smart Array 1000 QuickSpecs below to determine configuration requirements	External	Please see the Modular Smart Array 1000 QuickSpecs (URL below) for the latest list of supported HBAs

Modular Smart Array 1000: http://h18000.www1.hp.com/products/quickspecs/11033_na/11033_na.HTML

Maximum Storage Capacity - (Enclosure with ATA models)

Internal	274 GB (2 x 160 GB 1" ATA/100) NOTE: ATA controller will only recognize 137 GB of a 160 GB HDD.
External	4.20 TB (1 x (14 x 300-GB 1" Ultra320 Drives))
Total	4.474 TB

Tape Drives, Tape Autoloaders & Tape Libraries

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Drives listed below, please see the following:
http://h18000.www1.hp.com/products/quickspecs/North_America/10233.html

NOTE: For an up-to-date listing of the latest O/S Support details for each of the Tape Autoloaders and Tape Libraries listed below, please see the following:
http://h18000.www1.hp.com/products/quickspecs/North_America/10809.html

NOTE: For complete listing of tape drive offerings see
<http://www.hp.com/products1/storage/compatibility/tapebackup/ISS/index.html>

	Quantity Supported	Position Supported	Controller
HP StorageWorks Tape Drives, External	Up to 2	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
Ultrium 215			
Ultrium 230			
Ultrium 448			
Ultrium 460			
Ultrium 960			

Storage

HP StorageWorks Tape Drives, External DAT 72 Tape Drive DAT 40 Tape Drive DAT 24 Tape Drive DLT VS80 Tape Drive	Up to 3	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Tape Drives, External SDLT 320 Tape Drive	Up to 2	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Autoloaders, External 1/8 Tape Autoloader SSL1016 Tape Autoloader	1 autoloader per SCSI channel	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks Tape Libraries, External MSL6060 (Ultrium 460 - based) MSL6030 (Ultrium 460 - based) MSL5026S2 (SDLT 320-based) MSL5052S2 (SDLT 320-based) MSL5030 (Ultrium 230 - based) MSL5060 (Ultrium 230 - based)	Please reference the MSL Tape Library QuickSpecs to determine configuration requirements	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS
HP StorageWorks ESL E-Series Tape Libraries ESL 712e ESL 630e ESL 322e ESL 286e	Please reference the ESL E-Series and ESL9000 Series Tape Libraries QuickSpecs to determine configuration requirements	External	64-Bit/133Mhz Dual Channel Ultra320 SCSI Adapter 64-Bit/66-MHz Dual Channel Wide Ultra3 SCSI Adapter, Alternate OS

Technical Specifications

System Unit	Dimensions (HxWxD)	1.67 x 19.0 x 21.9 in (4.24 x 48.3 x 55.6 cm)	
	Weight	24.58 lb (11.15 kg)	
	Fully configured with two hard drives, four DIMM modules, and a PCI expansion board		
	Input Requirements (per power supply)	Range Line Voltage	100 to 240 VAC
		Nominal Line Voltage	100 to 120 VAC/220 to 240 VAC
		Rated Input Current	3 A (100 to 120 VAC) to 1.5 A (200 to 240 VAC)
		Rated Input Frequency	50 to 60 Hz
	BTU Rating	870 BTUs/hr	
		NOTE: The BTU Rating listed is for the Rated Input Power of 255W.	
	Power Supply Output Power (per power supply)	Steady State Power	180 W (rated)
			NOTE: The maximum expected steady state.
		Maximum Peak Power	200 W (2 minutes)
	Environmental Operating Operating	Ambient Temperature	50° to 95° F (10° to 35° C)
		Temperature Derating	1.8° F per 984.25 ft to 9,842.5 ft (1° C per 300 m to 3000 m)
		Relative Humidity	10% to 90% (non-condensing)
		Maximum wet bulb temperature	82° F (28° C)
	Non-operating Storage	Temperature	-4° to 140° F (-20 to 60° C)
		Relative Humidity	10% to 95%
		Maximum wet bulb temperature	84° F (29° C)
	Non-operating Shipping	Temperature	-40° to 140° F (-40 to 60° C)
		Relative Humidity	10% to 90%
		Maximum wet bulb temperature	86° F (30° C)
	Acoustic Noise	Idle (Fixed Disk Drives Spinning)	
		L WAd (BELS)	6.1
		L pAm (dBA)	51
		Operating (Random Seeks to Fixed Disks)	
		L WAd (BELS)	6.2
		L pAm (dBA)	52

Technical Specifications

Non-Hot Plug ATA/100 Hard Drives	80 GB 7.2K 278424-B21	Capacity	80054 MB		
		Height	1.0 in (2.54 cm)		
		Width	4.0 in (10.16 cm)		
		Interface	ATA 100		
		Transfer Rate Synchronous (Maximum)	100 MB/s		
		Seek Time (typical reads, including settling)	Single Track	0.8 ms	
			Average	8.5 ms	
			Full-Stroke	17.8 ms	
		Physical Configuration	Rotational Speed	7,200 rpm	
			Bytes/Sector	512	
			Logical Blocks	156,355,584	
		Operating Temperature	41° to 131° F (5° to 55° C)		
Power Supply	Input voltage specifications Input Specifications	Rated input voltage	100 VAC to 240 VAC		
		Rated input line	180 VAC to 264VAC (90 VAC to 132 VAC)		
		Frequency range	47 to 63 Hz		
		Rated input power	298 W		
		Rated input current	3.3 A, 1.7 A (110 V, 220 V)		
		Steady state power	180W		
		Maximum peak power	200W for 2 minutes		
		Ambient temperature range	20 ms from zero crossing at 120 VAC		
		Operating	41° to 122° F (5° to 50° C)		
			-40° to 185° F (-40° to 85° C)		
		Relative humidity (non-condensing)	Operating	5% to 95%	
			Non-operating	5% to 95%	
		Dielectric voltage withstand	Input to output	3,000 VAC/minute	
			Input to ground	1500 VAC/minute	
		Maximum Wet Bulb Temperature	80/80	82° F (28° C)	

Technical Specifications

Low-Profile 24X Max IDE (ATAPI) CD-ROM Drive	Disk	Applicable Disk	CD-DA, CD-ROM (Mode 1 and 2) CD-XA, CD-I (Mode 2, Form 1 and 2) CD-I Ready, CD Extra, Video CD, CD-Bridge Photo CD (Single and Multi-session) CD-WO
		Capacity	550 MB (Mode 1, 12 cm) 640 MB (Mode 2, 12 cm)
		Diameter	4.7 in, 3.15 in/12 cm, 8 cm
		Rotational Speed	4200 rpm maximum
		Center Hole	0.6 in/15 mm diameter
		Thickness	1.2 mm
		Track Pitch	1.6 μm
	Block Size	Mode 0	2,368, 2,352 bytes
		Mode 1	2,352, 2,340, 2,336, 2,048 bytes
		Mode 2	2,352, 2,340, 2,336, 2,048 bytes
	Interface	IDE (ATAPI)	
	Access Times (typical)	Random	<150 ms
		Full-Stroke	<350 ms
	Data Transfer Rate	Sustained	150 KB/s (sustained 1X)
		Burst	2100 to 4800 KB/s
	Cache Buffer	128 KB	
	Start-up Time (typical)	< 10 seconds	
	Stop Time	< 5 seconds	
	Operating Conditions	Temperature	41° to 118° F (5° to 45° C)
		Humidity	10% to 80%
Dimensions	(HxWxD, maximum)	0.5 x 5.12 x 5.16 in (1.27 x 13 x 13.1 cm)	
	Weight	<11.98 oz (<340 g)	

Technical Specifications

Two NC7760 PCI Gigabit Network Interface Server Adapters (embedded)	Compatibility	10Base-T/ 100Base-TX/ 1000Base-TX	
		IEEE 802.3 10Base-T	
		IEEE 802.3ab 1000Base-T	
	Data Transfer Method	IEEE 802.3u 100Base-TX	
		32-bit bus-master PCI	
	Network Transfer Rate	10Base-T (Half-Duplex)	10 Mb/s
		10Base-T (Full-Duplex)	20 Mb/s
		100Base-TX (Half-Duplex)	100 Mb/s
		100Base-TX (Full-Duplex)	200 Mb/s
		1000Base-TX (Half and Full-Duplex)	2000Mb/s
Connector		RJ-45	
Cable Support	10Base-T	Categories 3, 4 or 5 UTP; up to 328 ft (100 m)	
	10/100/1000Base-TX	Category 5 UTP; up to 328 ft (100 m)	
<hr/>			
Integrated Dual Channel Ultra ATA/100 Controller Module	Temperature Range	Operating	32° to 158° F (0° to 70° C)
		Shipping	-40° to 257° F (-40° to 125° C)
	Relative humidity (non-condensing)	Operating	10% to 90%
		Non-operating	5% to 95%
	Simultaneous drive transfer channels	2 channels	
	Transfer rate synchronous (maximum)	100 B/s	
	Data transfer method	32-bit PCI bus-master	
	Drive support	Ultra ATA, EIDE & Fast ATA-2	
	PCI bus transfer rate (maximum)	133 MB/s	
	Data transfer modes	UDMA Mode[0-5]	
		PIO Mode[0-4]	
	Protocol	ATA100 compatible	
	Feature	CRC (Cyclical Redundancy Check)	
	Buffer size	128 Byte	

Technical Specifications

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